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EDITORIAL

Museums

THE PERFECT "visual materials" for teaching are the actual objects themselves, standing or growing in their native environments, but most of these environments are utterly inaccessible to any given school. The most nearly perfect substitutes, then, are the actual objects, gathered into an accessible place, with the native settings reproduced as perfectly as possible by human art. The Museum, in other words, is the supreme source of the finest materials for visual teaching. The Museum should be, therefore, the most potent force in the visual field, the central citadel of the visual education movement. It is not. Why not?

The great museums of America represent a colossal investment, probably greater than that of any other organization or enterprise serving the visual field of education. Within the limited range of their influence, museums render unparalleled service to the educational cause. But these costly treasure-houses are not fulfilling a fraction of their possibilities. Millions of dollars have been spent to give a tiny bit of our population fleeting glimpses of a multitude of things. It is an enormous expenditure for a relatively slight and superficial result.

If this situation were inevitable or necessary, there would be grave reason to doubt the wisdom of such investments to achieve such elementary purposes. But the situation need be only temporary. So far our museums have succeeded in financing the major costs of buildings, collections, organizations, classifications and displays. It remains to accomplish what will justify the whole magnificent achievement, namely, to carry these values to millions, instead of thousands, of the people that vitally need them.

The museum's opportunity to serve is cruelly limited. It has so much to give, so few to give it to. The museum has immeasurable value for every community in the country, yet it can serve only its own community. And this community must come to the museum. How many come? A large proportion of the local population never come at all. A still larger proportion probably averages less than one visit per year. A mere handful (is it even 1 per cent?) is sufficiently appreciative to come often and stay long, and only these out of the whole community derive anything like the full value the museum was built to give. Hence this palatial home for priceless things drawn from the remotest corners of the world exists to serve one out of a hundred people who chance to live within visiting radius of the spot. For the other 99 out of a hundred in its own territory, and for the tens of thousands of other communities in the land which could benefit equally by its treasures, the great museum stands helpless to serve. "The mountain labored and brought forth a mouse", as Horace put it.

Consider, too, the average "visit to the Museum" as made by this fraction of the community. The visitor struggles through the great entrance doors, wanders toward the first row of glass cases he sees, or to the first exhibit that catches his eye. His vision sweeps over numberless objects in case after case, he pauses at points of special interest but soon moves on "or he will never get over it all". He turns right or left into adjacent rooms according to what he glimpses through the doorways, strolls on and on, until the thousands of objects passed have surfeited his gaze and numbed his attention. His eyes then rove over floors, walls, ceilings, and over other stragglers making their "visit" with him, and intermittently over those inexhaustible and now exhausting exhibits. He walks more slowly, more aimlessly, until he finally hits upon some cogent reason why he "cannot stay longer today but will come back again instead". He seldom comes back that year. His visit exemplifies the average use made of a great museum for more-or-less-informational entertainment, not for intelligent acquisition of knowledge offered for the taking. Such a visit is vaguely profitable to the visitor for a certain pleasant mental stimulation, for an occasional fact retained, and also he can say henceforth "O yes, I have seen the Museum."

The moments when a museum does some of its finest work are when a class from a neighboring school, accompanied by an expert teacher who has prepared the pupils properly for the experience, is spending a rich hour or two pursuing a specific topic. But here again, unfortunately, only a pitifully small part of the musuem's values can be absorbed. That class can come only at rare intervals. And it is but one of many classes in the school. Every class in the school could be using the wealth from that museum every schoolday of the year. But good teachers are few, school routines are crowded, and the average pupil is limited to a glimpse or two per year, or a mere corner or two, of the great treasure-house called "Museum".

It is quite general among museum directors, even the greatest, to be deeply impressed with the service they are rendering, and suavely contented with their achievement as it stands. They have no doubts of the dignity and worth of the work they are doing. They should have none. It is a great work. If they would only suspect that it might be ten-fold greater, perhaps a hundred-fold! They need only stop thinking of the museum as "the Mountain" and the public as "Mahomet". The first museum to realize that "the Mountain" is the public and the museum "Mahomet" will be on the way to the greatest achievement since the visual education movement began. Museums need not continue as mere brief spectacles for thousands. They can be living fountains of learning and inspiration for millions every day of every year. (More anon.)

NELSON L. GREENE.

A Roman Town House

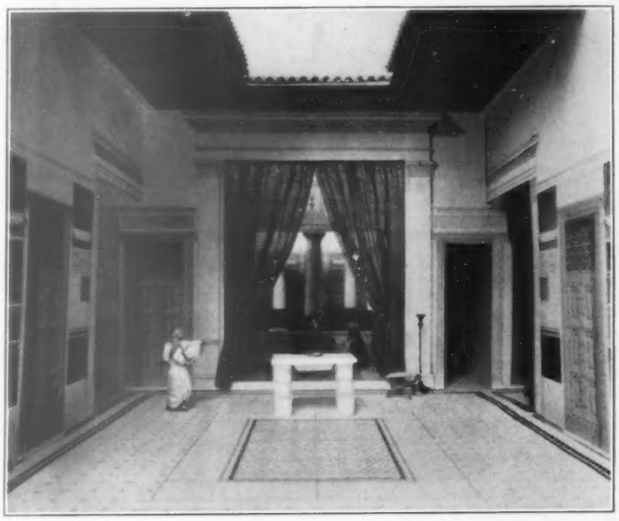
MRS. LORING DAM

AS THE type of ancient Roman dwelling most widely known is the one so adequately illustrated by the excavations at Pompeii, Herculaneum, and other south Italian towns, it has seemed best to choose this type for reconstruction in the schools. It must be borne in mind, however, that during the centuries of Rome's history, many variations in architecture and decoration developed according to the economic life of the period and locality or the fashion of the day, and that the crowded tenements of Imperial Rome (such as are partly illustrated at Ostia) and the many luxurious country villas of the rich (Pansylipon, near Naples, Horace's Sabine farm, etc.) illustrate equally important phases of Roman life.

The houses of the poor up to the 2nd century B.C. consisted of a single room or a few rooms arranged without thought of architectural effect. Judging from the scanty remains, most of them must have been of wood or wattle construction. A few more substantial ones were incorporated into the outer walls of the great houses which had an elaborate plan centering about the atrium. These houses built generally of rubble, reinforced with tufa blocks, and usually stuccoed, were only for the middle and upper classes, as they were ostentatious rather than comfortable, and must have required the service of numbers of slaves.

IN RESPONSE to repeated requests from teachers all over the country, the University Museum in Philadelphia has just published a cardboard model of a Roman house. It was reconstructed by George B. Roberts, B. Arch., for the University Museum. Designed on a scale of 3/8 of an inch to the foot, it is both architecturally and historically accurate in every detail. The main feature of the model, hitherto impossible for teachers to obtain, is the uniform scale reproduction of some of the most famous Pompeian floor mosaics and wall paintings. The coloring of these, and assembling the house, constitutes an invaluable project for classes whose study includes ancient domestic architecture or Roman life. The floor plan, walls, columns, and roof are supplied with complete directions for coloring them and setting up the house, together with suggestions as to furniture, garden, and so forth, which may be easily made of plastiline, cardboard, soap, etc.

Two theories have been advanced as to the origin of the atrium, the principal feature of the Roman house. The older theory supposed a central hearth in a single-room house with a hole in the roof to let out the smoke. Gradually rooms were partitioned off around the central space, the central hole became bigger, and the impluvium was devised to carry off the rain. The second theory supposes a central court, such as was common in the East, with small buildings



The Atrium, or great hall, showing the Compluvium, or opening in the roof through which rain fell into the Impluvium. To rear, to right and to sides open the Tablinum, the Andron, and the Cubicula.

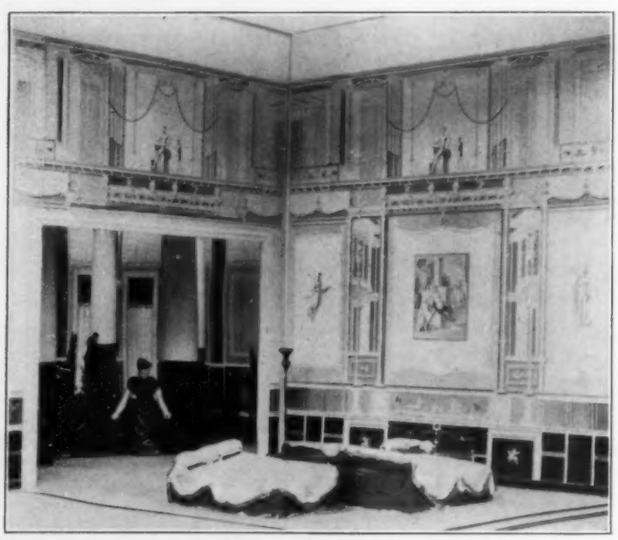
around it, this court in cities becoming smaller and being partly, though never completely, roofed. Whatever the origin, the earliest example we have of the atrium dates from the 4th century B. C., in the so-called "House of the Surgeon" at Pompeii. This house had originally no impluvium, but it had all the other features of the front half of Mau's typical plan. At the end of the 3rd century B. C. or the beginning of the second, we begin to find, as in our model, shops, often shut off from the house, and with second-story rooms accessible from them, made out of the original front rooms of the house.

Our model does not reproduce any actual house. It represents a corner house with party walls on the two sides not facing streets. It is adapted from Mau's "typical plan," incorporating the best preserved fragments of large Pompeian houses, in order to illustrate the main architectural features and the several types of wall and floor decorations. It was necessary to modify some rooms to new shapes in order to make them fit together, but the approximate size and shape have been preserved and the rooms have been assigned

to their original uses. (The ceilings, often arched, and occasionally elaborately decorated, have been omitted, so as not to interfere with a clear view of the rooms when the roof is removed.) The front is adapted from the "House of the Faun" (2nd century B. C.) and the pavement of the fauces and atrium are from the same source. The walls of the atrium are from the "House of Sallust" which is of the same period, and their decoration is in imitation of colored marble. Houses of this period had often a portico or colonnade at the back, but toward the middle of the century the peristyle came into fashion. This was adapted from the Greek house and was accompanied by a vogue for Hellenistic detail in columns and capitals. During this century peristyles were added to already existing houses by all who could afford them, and their prevalence continued until the middle of the first century A. D.

Our peristyle is decorated in the "intricate style" (50-79 A. D.), taken from the peristyle of the "House of the Tragic Poet." The columns are of Greek Doric type with the red stuccoed section characteristic of Pompeii. At the far end we have the exedra, or open-air living room, which was a feature of the Greek house. Our exedra has on its floor the famous Alexander mosaic from the exedra in the "House of the Faun," and wall decorations of the "architectural style" (80-10 B. C.) from the "House of the Labyrinth."

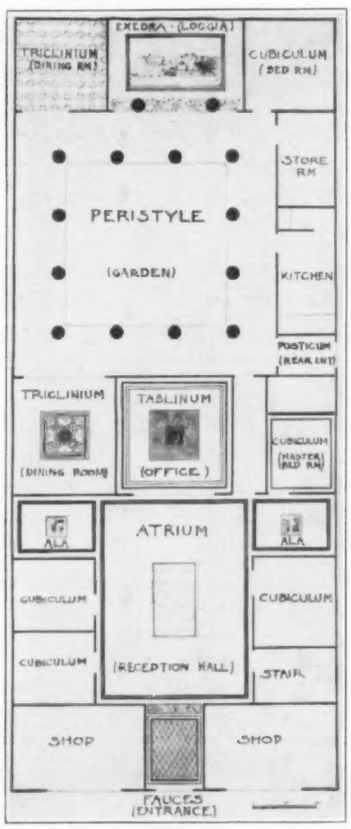
The addition of the peristyle made another center in the house about which rooms could be grouped.



The large Triclinium, or dining-room, reproduced from the "House of the Tragic Poet." The colors are chiefly red, yellow, green, blue and black.

It presented two advantages: it was more private than the atrium since it was removed from the front door, and it had much more light and air. The kitchen was almost always removed to this part of the house, and dining rooms were made to face the garden. It is at this time presumably that the triclinium of our house had its door into the atrium walled up and the large doorway cut to give a view of the peristyle. Also the room on the other side of the tablinum was subdivided, and the andron made to connect the front and back portions of the house.

The introduction of a second floor over this and the other rooms on this side of the house cannot have been made before the 2nd century B. C. Even so, it must have required strengthening of the original rubble walls with the newly introduced lime mortar. A balcony was added to provide access from the stairs and the room to which they led to the room over the andron and the adjoining cubiculum. This cubiculum is decorated in the "architectural style" (80-10 B. C.) with frescoes copied from the Boscoreale cubiculum now in the Metropolitan Museum. The upper floors over the shops were rented with the shops themselves and had ladders or stairs of their own.



Complete floor plan of the Roman house.

After this no further structural changes were made in our house. The small dining room next to the exedra (copied from a room off the peristyle in the Villa Diomedes) was decorated before 50 A. D. in the "ornate style" (which began during the reign of Augustus) and was floored with a "sectile" pavement of marble typical of this period. The atrium of our house must by now have seemed very old fashioned, but the family lived almost entirely in the rooms around the peristyle, and the atrium was preserved in its traditional austerity much as we preserve our Early American kitchens. The large triclinium and the tablinum were both redecorated in the "intricate style," the former copied from the triclinium of the "House of the Tragic Poet," with a mosaic pavement from the same room. On the walls, pictures represent "Ladies with a Nest of Cupids" originally in the same room, "The Embarcation of Chryseis" and "Zeus and Hera", both from the atrium of the same house. All pictures at Pompeii were part of the wall. No framed paintings have been found.

The tablinum is copied from that of the "House of the Tragic Poet," with pictures representing "The Sacrifice of Iphigenia" and "The Return of Briseis," found in the same house. The earlier pavement, from the same room, has a picture of actors preparing a satyr play.

Our house might have been further changed but that the eruption of 79 A. D. put an end to Pompeii. We can, however, from the excavations at Ostia form an idea of the subsequent development of the large house. As the cities became more crowded, the garden peristyle had to be abandoned. The introduction of brick-faced concrete made houses of many stories possible, and their subdivision into apartments made better and more private means of access to the rooms essential. The atrium had for many years been built merely because of tradition. The compluvium and impluvium were now enlarged, and the atrium became a mere corridor connecting the rooms. On the upper floors a similar arrangement was followed. The atrium space next developed into a courtyard with loggias around it, as has been found at Ostia and at Rome. From this type of house to the Roman palazzo of the middle ages is not a large step. The type persists in the "casamenti" or large blocks of flats which are still built around a central court and are the most characteristic feature of Italian cities.

If this theory of development is correct, we have a logical sequence from the earliest known times to the present day, and our house represents merely a link in the chain.

Visual Experience and Social Progress

(Continued from October Issue)

ALBERT E. OSBORNE

THE idea of pictures as the only hope for the adequate education of humanity will still strike many as absurd. This is an age when we have been giving particular attention to material things; when, as Professor Bowne says, "Things that can be seen and handled are preeminently real, and the tendency is to think that only such things are real." There is probably no point at which this present day tendency, to consider material reality as the preeminent kind of reality, has led us more astray than in regard to the nature of our experiences in connection with pictures. That is, when we think of our experiences with pictures we think unduly of the material things involved, the material things we handle—the pasteboard and paper, the glass slide, the moving film, etc. The material glass slide or film are realities, but we assume that any experience that we might have of seeing a mountain, for instance, in connection with the slide or film, could not be a "real" experience of seeing a mountain in any true sense of the word. Inasmuch as the material reality in a slide or film is entirely different in kind and insignificant in amount as compared to the material reality in a mountain, we *assume* that our experience of seeing the mountain through the medium of the slide or film is entirely different in kind and insignificant in value as compared with the experience of seeing the mountain itself. More careful thinking shows that this assumption is absolutely without foundation. Nevertheless the "matter of fact" person starts with this assumption and takes for granted that our experiences with pictures are not real experiences of seeing what is represented, but rather illusions or make-believe experiences. There is probably nothing about which there is more confusion and contradiction of thought than in regard to the nature of our experiences of seeing things in the presence of these things themselves, and the nature of our experiences of seeing these things through pictures. Even in the writings of educational authorities it is not unusual to find our experiences with pictures called "real" and illusions in the same paragraph. Evidently we can expect that adequate utilization will be made of pictures in supplying humanity's mental need and hunger for a world wide range of sight experiences, only as this confusion is cleared away.

Suppose we take a few minutes to analyze an experience of seeing things in the presence of those things, that we may clearly understand the different factors or kinds of reality that are involved in such an experience.

Let us suppose that we are in Plymouth, Mass., where the Pilgrims landed in 1620, that we are looking out over the cemetery where Captain Miles Standish and others were buried, down to the Rock where the little company landed, and out over the sea that bore their boats ashore. There are four different elements involved in the intensely interesting experience of seeing this historic place.

(1) The crumbling headstones, the trees, the Rock, and the sea stretching out as far as we can see.

(2) Light waves reflected from these material objects to our eyes.

(3) Marvelously complex states of the nerves in our eyes and body resulting from the impact of these light waves on our optic nerves.

(4) Accompanying states of our consciousness of seeing this memorable place, with all the endless thoughts and stirring emotions.

Now it is important to realize that each of us must himself build that fourth factor, the states of our consciousness upon seeing this historic spot. That is, images are formed in our eyes which we have learned

(we will not stop here to give the details of the process) to project out of our eyes and to superimpose on the material scene. To many people this would at first seem unreasonable, or perhaps even absurd. They are likely to say that when they look at such a scene, it is not a matter of images at all. They simply see the headstones, the Rock, and the sea, and the headstones and the Rock and the sea are there, and they could go out and touch them. But push a finger beneath one eyeball, and you will notice that the distant skyline or any object in full view is moved and doubled. Not only that, but the whole field of view can be moved, you will find, by moving the eyeball in this unusual way. This is a demonstration of the fact that, even when we are in the presence of material objects, we do not see the material objects, but rather *images* or duplicates of these objects which we build and project from our eyes.

Wherever you are, in your home or office or on the street, note the remarkable clearness and detail with which you can see the material "realities" before you. Then push a finger beneath one eyeball and note the way these "realities" are moved. Thus it becomes evident that the reality that *we see* even when we are in Plymouth (or in any place) has its source within us,—that all the *real objects* that *we see* are not the material objects, but realities rather that we build in connection with the nerve states induced by the light waves.

Most of us have taken for granted that we just "see" the objects that are before us; we have never realized the infinitely complex nature of our experiences of seeing. We have not realized that we must always live what we see, that in order that we may see any object or place that object or place must first of all be incarnated within us, must become, as a result of the impact upon our eyes of the millions of reflected light waves, distinctive states of our nerves and flesh and blood. And what infinitely complex nerve and body states these are! It is said that we have over 240 billion molecules in the red corpuscles of our blood, along with hundreds of millions of other nerve and body cells. It is only in connection with these inconceivably complex nerve and body states, the millions of light waves induce, that we are enabled to build and re-project for our mental vision the realities we see,—realities that are so marvelous in the richness of detail with which they represent the outlines and color and nature and quality of material things.

In the common but unfounded assumption that we really see material reality itself, and the consequent failure to realize that in our every day experiences of seeing we are dealing with two distinct and different kinds of reality, we find the main source of the confusion and contradiction of thought and judgment about the experiences that we may gain with pictures —that they are at once real experiences and illusions, experiences of reality and experiences of appearance only. Because matters of such importance to humanity hinge upon the clearing up of this confusion, perhaps we should try to bring out a little more definitely this fact, namely, that when we are in Plymouth, for instance, we are really dealing with two Plymouths, the objective material Plymouth, and what we may call our subjective Plymouth. It may help us in realizing the distinct difference between the two Plymouths—that each can exist separately, can stand on its own feet, as it were—if we note particularly that the material Plymouth is not an essential or necessary part of our experience of seeing Plymouth, or of the Plymouth that we see. That is, if while we were there the material Plymouth might in some way vanish, and yet the same light waves could continue coming to our eyes, it is evident that our experience of seeing Plymouth, or the Plymouth we had been seeing, with all the attendant knowledge, thoughts and emotions, would continue absolutely unchanged. If our experience of seeing Plymouth could thus remain after the material Plymouth is removed, evidently the material Plymouth is not an essential part of our experience. The only part the material Plymouth plays is in reflecting the light waves. The only essential factors involved in our experience are the light waves, the nerve states the light waves induce, and the states of our consciousness.

There is no good reason why we may not build our experience of seeing Plymouth, apart from the material Plymouth, provided we have some means of *reproducing* the light waves, as sound waves are reproduced by the telephone, radio, etc. Such reproduction is accomplished by good pictures. Whether the light waves come to us from Plymouth or from a picture of Plymouth we must build, in connection with the nerve states the light waves induce, the only Plymouth, the real Plymouth, that we see. With the picture we have the same kind of light waves supplied, the same kind of nerve states, the same states of consciousness. The only differences in the experiences of seeing Plymouth in the two cases, the only differences in the Plymouth we see in the two cases, is a difference of quality, not a difference of kind.

It becomes evident at once that the degree to which the experiences with pictures may approximate the experiences we gain in connection with the material world, will depend to a very large degree upon the quality of the pictures. This is a matter of great importance. We have not only many different kinds of pictures, and an endless variety of subjects that are represented in pictures, good, bad and indifferent, but also pictures that vary vastly in quality. We may say that, other things being equal, most pictures

will be best in the degree that they reproduce light waves that correspond most nearly to those reflected by the objects themselves. There are enormous differences in this respect between good original photographs and the many kinds of reproductions. "The photograph is such an every day matter with us that we forget its miraculous nature" in reproducing light waves. And yet the slightest difference in the quality of pictures affects those nerve and body states involved in our experiences of seeing. Of course the advantage of the reproductions is found in the possibility of multiplying them quickly and cheaply by the printing press. This however should not make us overlook the great superiority of the various kinds of original photographs—a superiority that is so important as frequently to justify the difference in the cost.

But even though the best original photographs, stereographs, slides or films are used, many assume that because a person knows it is a "picture" of Plymouth he is looking at, therefore he can not gain to any considerable degree the same emotions he would gain in looking at the actual spot. But such an assumption is belied by people's reaction at theatrical performances, at the movies, before the phonograph, telephone or radio. In fact during all of a person's life when certain sound or light waves have come to him, they have given reliable testimony as to certain realities in his environment; and so eventually as a matter of habit the same or similar thoughts and emotions spontaneously arise, often irresistibly, when such sound or light waves are repeated (as when we see an engine approaching a destroyed bridge at the movies). With good pictures we can not only see with the same marvelous accuracy, but also gain to a considerable degree the same emotions.

Just what is meant, then, when these experiences gained from pictures are called "illusions?" In the first place we should understand that the word "illusion" is a general term that is applied to various kinds of experiences in which the facts of our mental states do not correspond with the facts of the world about us. There is one class of illusions known as hallucinations. Hallucinations are those states of mind in which a person projects some pigment of his imagination into the external world and thinks of it as a present reality; as a man afflicted with delirium tremens sees snakes when there are no snakes around. Then there is a class of illusions known as delusions. This term is applied to experiences where some sense impression is received, but this impression is misinterpreted, exaggerated or distorted. Thus, Ichabod Crane, with his mind absorbed by the thought of headless horsemen, took the stumps seen dimly in the moonlight for headless horsemen. Another class of illusions is due, not to any disorder of the mind whatever, but entirely to unusual conditions in the environment, as when, for instance, one sees one's face in the mirror.

It is easy now to recognize, first, the fundamental difference between this third class and the other classes of "illusory" experiences, and, second, the essential likeness between this one class of "illusions" and what we ordinarily call "real" or "actual" experiences—such as we gain in the presence of the material objects and places themselves. The *experience of seeing* Plymouth in pictures is called an "illusion," not because it differs necessarily from the experience of seeing the actual Plymouth but solely because of the environmental condition that the light waves are reflected from a photograph or film rather than from the material reality itself.

Now of course this substitution of photograph, slide or film for the material Plymouth means that we cannot gain any other experience of Plymouth than the visual experience. We cannot utilize the material Plymouth or any part of it in any way. When we are actually in Plymouth we can not only see the waves, but also hear them beat on the shore; we can not only see an apple tree in an old orchard, but also touch and smell and taste the apples. To this extent our visual experience of Plymouth is incomplete, but the loss is slight. We readily supply from past experience the missing data furnished by touch, taste and smell. Consider the simple fact that the sight of an actual apple tree usually suffices to give us a complete and satisfying concept of that tree. We seldom insist on touching, smelling and tasting its fruit to complete our concept, assuming that we have eaten apples. Life would be too short to repeat our touch, taste and smell experience for a thousand orchards. The sight of them is entirely adequate. It is just as great a blunder to make the value of an experience of seeing a place by a fine picture depend upon the presence or absence of the material place, as to make the value of a telephone conversation depend upon the presence or absence of the person speaking to us.

In spite of the common feeling that "illusions" are either worthless or positively misleading and harmful, we can see clearly that the right kind of illusion is to be sought as earnestly and prized as highly as any experiences of which we are capable. Indeed, it is this capacity to get the proper illusory experiences that must eventually be considered one of the greatest blessings conferred on mankind. Here is a way by which each individual child and adult everywhere can be liberated to a considerable degree from bodily limitation. Here is a way of escape from conditions that hold him bound to narrow place and circumstance. With the materially insignificant pieces of rubber and metal composing a telephone one may be connected with and hear the voices of over twenty million people. With other equally insignificant material means used

in the manufacture of pictures, one may be thrilled by the quickening of interest and knowledge and emotion and understanding that comes from seeing important places and events anywhere throughout the world.

But the typical "matter of fact," "hardheaded" individual of this materialistically minded age, sees only the physical slides or films or pasteboard stereographs or photographs. To such "practical minded" people, the endlessly interesting and often thrilling experiences made possible by these means, are experiences merely of "pretty pictures" "make-believe experiences," "illusions," "appearance"—not "reality." Here we find the main reason why, in one school system, for instance, uptodate projection apparatus and visual material are provided for the children, while in another system of equal financial resources nothing of the kind is provided; why school boards will invest hundreds of millions of taxpayer's money for buildings and grounds and other millions for teachers' salaries, and then make the children depend to a large degree on language descriptions as a substitute for the marvelous experiences that children might gain by the use of fine visual material—experiences that otherwise they must travel hundreds of thousands of miles to obtain. In spite of all the use that has been made of pictures, we have scarcely begun as yet to realize the extent to which the universal hunger and need of humanity for an immensely wider range of sight experiences might be satisfied by the use of pictures.

Here then we reach a truth that is of tremendous importance to humanity—the truth that with apparatus now available, children and people everywhere can be enabled to build up real experiences of seeing what is most important for them to see throughout the world—that the eager appetite of earth's millions for a world range of sight experience can be largely satisfied; that by the use of pictures people generally can gain the same kind of mental food that otherwise they could gain only in the actual presence of the wide material world. Here, then, we find a practical solution to the immense problem of providing for what is a primary requirement if people are to build inner worlds that are in any measurable degree accurate and dependable duplicates of the vast outer world, a primary requirement in the world of developing those bigger men and women for whom there is such a tragic need today.

We come now to the briefest possible reference to the questions as to the varying suitability and value of the different kinds of pictures in the work of the schools particularly; the methods of their use; the pictures that are now available and the pictures that are needed.

With regard to the work in schools, undue emphasis is liable to be put on the moving picture. Unquestionably the moving picture is of very great value in the schools. But of course the movie needs to be and ordinarily should be used only when motion is an essential feature. Furthermore the movie does not give sufficient opportunity for detailed observation and discussion. It is somewhat like trying to study and become acquainted with and understand the world of nature and humanity while moving through it in an automobile or express train or airplane. Here the still picture, like the lantern slide, has a decided advantage. Such pictures can be taken into the individual classrooms, correlated closely with the subject of each lesson, held long enough for detailed observation, more fixed impressions, and individual discussion on the part of the class.

This matter of *method* in the use of pictures is of great importance. Today as never before the importance of pupil activity is being emphasized. It may not take long to see some place or event, but to gain the significance of what is being seen is often a life matter. There is no question but that so far in the use of visual material there have been too many "picture shows." Even in the use of still pictures a conglomeration of objects—physical features, people, industries, customs, etc.—have been thrown at the children at one time. This is much like going to a restaurant and trying to crowd down the whole bill of fare at one meal. Such a use of pictures not only makes for superficial knowledge of what is being seen, but usually there is not even accurate observation as to what is being looked at. This unpedagogical use of visual material has prejudiced many unreflecting educators against its use.

As we turn to the question of the pictures that are available today, we find of course a rapid increase in the number and range of pictures supplied to the general public in the movies, the newspapers, magazines and books. For specific use in the schools there is also an increasing number of pictures supplied—movies, lantern slides, stereographs, reproductions in books, etc. The schools have scarcely begun to make use of the visual material that is now available. However, this material is only a beginning of what is needed. No adequate attempt has yet been made to secure what is needed. A vast amount of time and expense and trained ability have been spent through many generations in producing, collecting and grading language symbols for use in education. An equal amount of ability and some measure of the expense should be spent in making a world range of pictures, in getting information to go with them, in grading them, and in devising the best methods for their use. It is an immense task, an immensely important task, concerning the performance of which we shall venture only a few suggestions here.

(To be Concluded in December)

Sound Motion Pictures as an Aid In Classroom Teaching*

THELMA ATKINSON

WITH THE development of sound motion pictures, there has arisen the problem of the value and use of educational sound motion pictures in classroom teaching. At present there is a lack of knowledge of the exact worth and place of such pictures as a teaching aid, due primarily to the recent and rapid development of equipment making sound motion pictures possible. Before the exact place of sound pictures as a part of an educational program can be established, it is necessary to determine the contribution which the addition of sound makes to the film.

Dr. C. C. Clark of New York University has recently completed some interesting experiments which established the fact that the addition of sound is a decided asset in some forms of classroom instruction. Dr. Clark's experiments purposed to establish as exactly as possible the values of educational sound motion pictures as compared with two other types of teaching aids; namely, silent pictures and lecture demonstrations.

Two phases of the problem of evaluating the use of sound motion pictures in teaching were studied, namely, the relative values of such pictures as a means (1) for the conveying of concrete knowledge or information, and (2) for the stimulating and maintaining of interests. No attempt was made to determine the values of educational silent motion pictures or lectures except in comparison with the value of sound pictures.

Dr. Clark carried out his experiments in a class in General Science in the School of Commerce, Accounts and Finance at New York University. Twelve hundred students came under his observation in this work. The students were divided into two groups: an experimental group and a control group. The films were used in the experimental group, while other means of demonstrating the same material shown in the films were used in the control group. The two groups were chosen in such a way as to make them as nearly as possible equal in mental capacity and achievement. During the latter part of the test the students were rotated.

Complete equipment for the projection of sound and silent motion pictures was installed in the classroom. It was done in such a way as to prevent any distraction by noise or sight of the machine. The equipment consisted of a standard 35 millimeter Simplex projector and the best type of sound-reproducing apparatus available.

Thirteen films were used, eight of these being sound, five silent. These pictures constituted a sampling of the best films available relating to the subject matter of the course.

The pictures used in the first half of the experiment related to the biological sciences and included such titles as "Castles of Paper," a picture giving the habits and characteristics of insects. The second half of the experiment dealt with the physical sciences, and included "Characteristics of Sound", which gave the quality of music and speech.

Two kinds of test were used to determine which group of students was getting the most from the classes. The most novel of these tests was a photographic record of the students, made for determining just how many actually maintained attention even while there was distraction in the room. For this, Dr. Clark concealed a photographic apparatus at the front of the classroom. This was connected electrically with a bell near the door so that, at any time he wished, the instructor could set both in motion simultaneously by pressing a button. Both while the film was being shown, and during a lecture demonstration, the instructor pressed the button. A bell rang loudly. At the same time, quite unknown to the students themselves, a picture was taken of the class. When the resulting pictures were developed, Dr. Clark was able, merely by counting the number of heads turned toward the noise, to determine how many students did not maintain attention. The final percentages were obtained after photographing the classes during the showing of a number of different pictures, both sound and silent, and during lectures. They showed that, when watching sound films, 81.7% of the students kept their eyes on the film. Of those watching silent films, 75.2% remained attentive, while only 54.6% of those listening to lectures were attentive.

The other test was a comprehensive examination made up of 99 questions relating to the factual content of the films. These items were of the multiple-choice and recall types. This test was constructed by Dr. Clark himself, no satisfactory standardized one being available.

The examination was divided into two parts.

(*Concluded on page* 254)

*Material obtained and O.K.'d by Dr. C. C. Clark, who made the experiments described.

NEWS AND NOTES

CONDUCTED BY JOSEPHINE HOFFMAN

Preliminary Educational Motion Picture Conference

CLINE M. KOON

ON INVITATION of Dr. George F. Zook, United States Commissioner of Education, more than thirty representatives of various governmental, educational and motion picture agencies met at Washington, September 25, to prepare a composite report on the use of motion pictures in education in the United States. This report will be submitted to the International Congress of Educational Cinematography to be held in Rome in April, 1934. In opening the conference, Commissioner Zook explained that the Office of Education was simply acting as a facilitating agency in calling together representatives of various motion picture organizations and educational associations that are interested in making motion pictures serve more effectively the ends of education. He said, "Our office has not prepared a report to be submitted here for your approval. We have no program for you to endorse."

The educational influence of the motion picture, the motion picture in the service of health and vocational training, the motion picture as a factor in national unity and international understanding, and the systematic use of the motion picture in schools were among the subjects discussed. They will be considered in order.

The consensus of opinion of the conference was that the motion picture is destined in the near future to have a profound influence on education. Dr. Ann Shumaker of the Progressive Education Association said, "We know, from various studies that have already been made, the tremendous educative power of motion pictures." Dr. Edgar Dale of The Payne Fund reported that their recently completed research studies show that about two-thirds of the children of a typical city attend the motion pictures once a week and that motion pictures have a lasting effect on children's attitudes. The place of the motion picture in the growing field of adult education with its different ramifications was pointed out. In this connection, the educational value of wholesome recreation and the part that motion pictures could play in this much needed service were suggested.

In his introduction of the subject of vocational instruction with motion pictures, Mr. C. F. Klinefelter of the Federal Board for Vocational Education stated that motion pictures already have demonstrated their effectiveness as aids in teaching vocations and that in the present unemployment situation, with more than eight million men out of work, motion pictures have a unique opportunity in employment readjustment.

Mr. Leslie C. Frank of the United States Public Health Service explained how films were being used to inform the public how to control and prevent the spread of communicable diseases. Other health films mentioned at the conference were the Eastman medical films, health films of various insurance companies and the technical films being used for instructional purposes in medical schools. "The question of policy that should be followed by the motion picture industry as regards so-called health films is an ever present one," said Governor Carl Milliken of the Motion Picture Producers and Distributors of America. "The position of the industry at present," he continued, "is that education on health and social hygiene is a matter for health authorities, school authorities, and parents."

In the discussion of motion pictures for national unity the Yale Chronicles of History, the Eastman pictures of Washington and Lincoln, and motion pictures in connection with the present recovery program were mentioned. The danger of obvious propaganda for any cause having the wrong effect on people who go to the theatres for relaxation and entertainment was pointed out. Representatives of the motion picture industry mentioned that probably fifty pictures were released each year in this country which present some phase of national life or historical development, but that the most significant medium is the newsreel which keeps all the people feeling that they are acquainted with the personalities who are making the history of the time.

The introduction of the people of one nation to those of another was considered to be one of the chief accomplishments of the motion picture in the field of international understanding, according to conference members. The danger of films disregarding national ideals and interferring with international relations was indicated also. In this connection, Mr. Leon J. Bamberger of the RKO Distributing Corporation explained the procedure being followed by motion picture producers at the present time in order to avoid offending peoples of various countries by the way in which they were depicted on the screen. Mr. William A. Reid reported on the film work being done by the Pan American Union in the field of international under-

standing. One recommendation was that a series of short feature films be produced showing children of various nations at play.

Dr. C. F. Hoban, representing the Department of Visual Instruction of the National Education Association, and Dr. Edgar Dale of The Payne Fund led the discussion of the use of motion pictures in schools; and Dr. V. C. Arnspiger of the Erpi Picture Consultants discussed the research problems involved in the instructional use of motion pictures. Doctor Hoban said educators had not taken the degree of interest in motion pictures that they should. In his opinion the three things that needed to be done were: to reach and sensitize school administrators, to see that school budgets made provision for motion picture equipment and films, and to train teachers in the techniques of visual instruction. In this connection, Mrs. Robbins Gilman of the National Congress of Parents and Teachers spoke of the work of the Congress. She said that her organization was stimulating the increased use of non-commercial films for educational and recreational purposes and working for better means of distributing films and the necessary legislation in State and National government to carry out these plans. Doctor Dale outlined The Payne Fund experiment in teaching motion picture appreciation in secondary schools.

Throughout the conference reference was frequently made to the need for closer co-operation of the various agencies that are interested in the production, distribution, and use of educational films. Resolutions were passed expressing the consensus of opinion of the conference that the Federal Office of Education should serve as a national center for the collection and dissemination of information about non-theatrical films, and should take steps to promote motion picture instruction in public school curricula throughout the country.

Massachusetts Promotes Free Films

In order to serve both the user and the producer, as well as the distributor of free films, three organizations are cooperating to set up a centralized service of free films to the schools of Massachusetts. The centralized office will be at Boston University School of Education. "The Massachusetts School Teacher," the official organ of the state's Teacher Federation, representing 18,000 teachers, will publish the lists of available films. The Massachusetts branch of the Department of Visual Instruction of the National Education Association, is cooperating to establish the service.

There is to be no cost to either distributor or producer for the use of the films. The user is to pay transportation both ways for this service. Boston University, being centrally located, will provide an opportunity for schools within reach to call for their films.

Brigham Young University Extends Service

Always in the vanguard of the progressive higher educational institutions of the United States, Brigham Young University has inaugurated a visual instruction service for the schools and communities of the inter-mountain area. A small amount of service was available last year, but the recent addition of more than one hundred reels of 16 mm. motion pictures and of many sets of film slides forms a library adequate to take care of the needs of the majority of the schools which are now equipped to use these services. Additional subjects and other types of service are contemplated as the demands for them become evident.

The service of the Bureau of Visual Instruction at B. Y. U. does not stop with the organization of a film and slide library. The teacher who does not know how to use the visual aids properly will not achieve the desired results. With this in mind, plans are under way to give many teachers a working knowledge of the use of those aids which will be of greatest value in each situation. A short course in visual instruction methods was offered during the summer session of 1933. One residence and one or more extension courses will be offered during the fall quarter. A manual or handbook of visual instruction will be prepared for general circulation among those who desire guidance in organizing a visual instruction program for a class, school, or district.

The Extension Division of Brigham Young University has borrowed from the Extension Division at the University of Kansas the services of Ellsworth C. Dent, who has been in charge of the visual instruction service at K. U. for the past ten years. Mr. Dent will be in charge of the visual instruction course, will assist with the further organization and promotion of the visual instruction service, and will prepare the visual instruction handbook.

The schools of the inter-mountain area are giving excellent co-operation to B. Y. U. in the development of the service. The majority of these schools have been obliged to send five hundred miles, or more, for such service as they desired to secure on loan. The materials are now available close at hand and at very low fees. In addition to the service for schools, special materials are offered to the seminaries and other religious groups of the Mormon church.

The chief organizer and guiding light of the Utah visual instruction service has been and is Dr. Lowry Nelson, Director of the Extension Division at Brigham Young University. His right hand man in the service is F. Wilcken Fox, a graduate of Brigham Young University who has been appointed secretary of the Bureau of Visual Instruction. In addition, major credit for the service is due Dr. Franklin S. Harris, President of B. Y. U., who appropriated the necessary financial support.

Visomatic Tosses a BOMBSHELL Into Visual Instruction Tradition

The newest Visomatic — combining stills, motion, sound and color automatically—is a sudden, unexpected challenge to all other forms of sound picture apparatus. Educators to whom private showings have been made are exultantly repeating that Visomatic System dwarfs all present—if not all presently contemplated—methods.

Simple, light, inexpensive, this latest Visomatic projects slide film images synchronized with sound, when greater concentration is required. It automatically switches to motion picture projection and sound when motion adds to the educational value of the subject. And, most amazing, the stills and motion are sequenced on one strip of 35 mm. safety film, (100 feet for half-hour lecture) housed in a four inch completely enclosed self-framing and finger-print proof loading cartridge. A boy can learn to operate Visomatic in five minutes, as no complicated "threading" of film is required.

Sound is synchronized on new type, flexible, non-breakable sixteen inch electrical transcription discs; pictures are changed, or motion added, by an ingenious combination of electric impulses relayed to a mechanical ear from inaudible 5,000-cycle oscillator notes in the transcriptions. Thus, without manual attention, the lecturer's voice, sound effects, music, bird notes or other instructive sounds are positively synchronized electrically, not mechanically, with the pictures.

True color on all subjects is projected when desired; the film itself being emulsioned with ordinary black-and-white emulsion, the primary colors, (giving every hue and nuance of the spectrum) being imbedded in

the film stock, 1,000,000 primary filters to the square inch. Exposures are made in ordinary cameras. No change is made, no extra lights required.

At a time when 16 mm. sound film is enjoying wide consideration as the "coming visual education method", this revolutionary Visomatic System, educators say, tends to change prevailing ideas.

For, where present-day apparatus is often complicated, heavy and expensive, Visomatic is simple, light and low-priced. Reels of ordinary sound film are expensive for wide-spread school-room use. Yet there is need for progress beyond the glass slide and slide film. There is a positive demand for low-cost and certain color film. This newest Visomatic, combining the advantages of slide-film with the values of motion, color and sound, will interest all students of visual education methods.

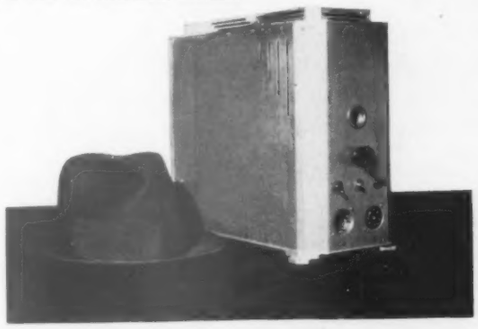
COMPARE!

	Visomatic	Sound-Film
1. Cost of Typical 15 Min. Production	$1200.00	up to $5000.00
2. Time for Making Production	1 week	1 month
3. Cost of Original Neg. Raw Stock	$3.00	$140.00*
4. Cost of Duplicates (Sound and Picture)	$5.00	$14.00
5. Cost of Projector	$175.00	$500.00
6. Opportunity to Utilize Present Material	100%	10%
7. Percentage Chance of Film Break in Projection	0%	3%
8. Decibels Extraneous Noise of Mechanism	.01	up to 4.50
9. Practice Required to Operate Projector	5 min.	1 week
10. Time to "Thread" Projector	30 sec.	3 min.
11. Size of Equipment	single unit case 5x11x14	two cases—each up to 10x20x30
12. Weight of Equipment	30 lbs.	up to 75 lbs. and over

*4000 ft. exposed; cut and edited to 600 feet.

The figures shown under Sound-Film do not refer to any particular equipment or service, but are based upon statements received from a number of sources universally deemed reliable.

The Newest Visomatic projects slide-film, motion, color, and synchronized sound-on-disc, automatic picture change. A precision instrument, optically, electrically, mechanically, perfected. Main features patent protected. Operates on 110 Volt, 60 Cycle, either AC or DC. Folding turntable sinks into case when not in use. Electric pick up head plays either "lateral" or "hill-and-dale" transcriptions. 200 Watt illumination, increased through entirely new optical set-up. Weight 30 pounds. Size 5x11x14 inches. Sealed cartridges, 4 inches, hold film for half-hour lecture.



Private demonstrations will be made after Dec. 1st at the New York headquarters, Visomatic Systems Inc., 292 Madison Ave., New York City, to those earnestly interested and who are visual education authorities in schools, colleges, municipalities or church fields. Correspondence and inspection is invited. No literature is yet available.

J. C. Woodward

Vice President in Charge of New Development.

FILM PRODUCTION ACTIVITIES

The aim of this new department is to keep the educational field intimately acquainted with the increasing number of film productions especially suitable for use in the school and church field.

Two Additions to Physical Science Series

A two-reel talking picture on the subject of sound is now in production by Erpi Picture Consultants for the University of Chicago Physical Science Series. The first reel, entitled *Sound Waves and Their Sources,* will show how sound waves are produced and propagated through air. Animation and high-speed photography will be employed to demonstrate sound wave patterns and explain these invisible phenomena.

The second reel, *Fundamentals of Acoustics,* will explain echo and refraction of both photography and animation. Either of these two reels may be used independently of the other, although the first menioned adds immensely to the better understanding of the second.

Drs. Harvey B. Lemon and Hermann I. Schlesinger of the University of Chicago supervised the preparation of the scenarios.

New Filmo Library Releases

Filmo Library has secured, for immediate release, four silent 16 mm. films picturing animal, plant, and Indian life in America's southwest. These films, each 400 feet long, are suitable for educational use, and are also entertaining subjects for general use.

Wild Animals of the Desert shows, in their natural habitat, the antelope chipmunk, diamond back rattlesnake, badger, hydrophobia skunk, and coyote—their adaptation to their environment, and life habits. It also includes scenes portraying the life of an old desert prospector.

Wild Life on the Desert pictures the topographical aspects of the desert of the Colorado in Southern California; its mountain barriers, its shifting sand dunes, a coral reef, remnant of the days when this was a sea, series of horizontal lines of rocks marking ancient water levels, and the Salton Sea of today. Desert plants are shown, each with its peculiar adaptation to its trying environment: ocotilla, cholla cactus, Washington palm, smoke tree, and others. Many desert animals are included in this film in scenes which portray their habits.

Hopi Indians of the Painted Desert—how the Hopi Indians live in their pueblo dwellings in the colorful desert of northeastern Arizona, their well-tended farms, the planting of corn and preparation of corn meal, their methods of cooking, tending their herds of sheep, making baskets, and other Hopi customs.

Among the Navajo Indians—Navajo hogans, and the family life in these log and earth houses, bathing a baby and placing him in an Indian cradle, weaving blankets, children tending flocks of sheep and goats, family scenes in the summer shelter, the preparation of food.

Psychological Experiments With Monkeys Filmed

The results of an investigation of problem solving in the Rhesus monkey, conducted by Charles D. Young, Jr., of the Department of Psychology, University of Kansas, were filmed by Mr. Ellsworth C. Dent, Secretary, Bureau of Visual Instruction, Extension Division. These experiments were primarily designed to test the *Gestalt* conception of animal behavior at this level of evolutionary development. Certain well known experiments were repeated and new ones added. In each of eight different experiments, the problem was solved by one of the two subjects, Gus, but Sue, the other subject, failed in numbers seven and eight. The monkeys were approximately one and one-half years old and were wild when purchased.

Experiments one and two consisted of simple problems in brightness and color differentiation. The problem was to choose the darker of two grays, or black as opposed to white, to secure a hidden peanut. This part of the problem was solved by both monkeys.

Both monkeys successfully distinguished as cues, a triangle from either a circle or a square, in experiment three.

In experiment four, the food was to be secured from a long metal cylinder hinged at one end and suspended in a horizontal position with the aid of a rubber band and a prop. To secure the food, the animal must remove the prop and either slide the rubber band off the tube or pull the tube downward, stretching the rubber band. By the second trial, both animals succeeded, indicating clearly that the relationship of means to ends must have been grasped through insight.

In experiment five, the food was to be secured by pulling a rope which raised a small platform inside of an elevator shaft, with wire-mesh front through which the food was visible. A sufficient pull lifted the platform to an opening above the wire-mesh through which the food could be secured. Sue, with some previous experience in string pulling, solved it the first time. Gus, with no experience in string pulling, immediately pulled and discovered that the platform was raised part way. He succeeded on second trial.

(*Concluded on page* 255)

DEPARTMENT OF VISUAL INSTRUCTION NOTES

CONDUCTED BY ELLSWORTH C. DENT, SECRETARY

Visual Instruction Meetings Well Attended

The visual instruction demonstrations and discussions before the Utah and Nebraska teachers' meetings in October created much interest in the application of visual aids to instructional problems. The intelligent inquiries which have resulted indicate a probable steady growth in the use of visual aids in both states.

The meetings of the Utah Education Association were held in the magnificent Mormon Tabernacle, in Salt Lake City. These meetings were held on October 26, 27 and 28. On Friday morning, October 27, the Visual Instruction Section held its meeting in the Assembly Hall, which is just a few yards from the Tabernacle. The meeting was scheduled to follow the morning general session. More than a thousand attended.

The meeting was opened by Mr. Glen Anderson, the president of the Visual Instruction Section, who introduced Dr. Lowry Nelson, director of extension at Brigham Young University. Dr. Nelson explained, briefly, the plans for complete visual instruction service to Utah schools, through the Bureau of Visual Instruction at B. Y. U., and introduced Mr. F. Wilcken Fox, the secretary of the Bureau. Mr. Fox called attention to available service and requested the suggestions and co-operation of Utah teachers and school executives in building a permanent and adequate loan service of visual aids. The discussions were followed by demonstrations of the best educational motion pictures, including both silent and sound subjects. There were also demonstrations of visual aids at some of the group meetings.

In Nebraska, the arrangements were somewhat different. The meetings were held on the same dates as those mentioned for Utah, but the Nebraska Teachers Association meets at central points in each of six districts into which the Association has been divided. Two of these sections, the fifth and sixth, placed major emphasis upon visual instruction.

The arrangements for the meetings of the Sixth District, held at Scottsbluff, were somewhat different from the ordinary, due to the careful planning of Mr. E. T. Whiting, the chairman. The general meeting on Friday morning was divided into two groups, the elementary, and the high school and college. The two groups met concurrently at the two leading theatres. The elementary meeting started at nine o'clock with appropriate music, followed by the showing of the sound pictures, *The Creative Approach to Education* and *Seed Dispersal*. The high school and college meeting started at the same time, with music by the Scottsbluff Band. This was followed by a discussion of the application of visual aids to high school and college instruction, delivered by Mr. Ellsworth C. Dent of Brigham Young University. At the close of his address, two pictures, *The Builders* and *The Molecular Theory of Matter*, were shown. While these pictures were being shown, Mr. Dent went to the other theatre and addressed the elementary group, following the showing of the pictures to that group. In the afternoon, Mr. Dent met the Elementary Principals section and the Normal Training section, discussing visual instruction problems and possibilities pertinent to these groups.

On Friday, Mr. Dent addressed the general session of the fifth district, held at Holdrege, on the subject, "The Use of Visual Aids to Solve Educational Problems." In the afternoon, discussions and demonstrations were presented before the Visual Instruction, Social Science and Elementary Principals sections.

There were approximately 3,000 teachers and school executives in attendance at the meetings of the fifth and sixth Nebraska districts, at Scottsbluff and Holdrege.

Copies of 1933 Directory Available

The *Visual Instruction Directory* for 1933, the most complete directory of its kind ever published, is still available for those who may have use for a complete list of the departments of visual instruction, directors of visual instruction, and leading users of visual aids, throughout the United States. The Directory is furnished at $1.50 per copy, postpaid, with a reduction of one-third to those organizations which may desire ten or more copies. Members of the Department receive one copy without charge.

Next Meeting Planned for February

The next semi-annual meeting of the Department of Visual Instruction will be held concurrently with the meeting of the Department of Superintendence of the National Education Association, in Cleveland. The Department meetings will be held on Monday and Tuesday of the N. E. A. meeting

week, and so arranged that there will be no conflicts with the general meetings of the Department of Superintendence.

Those who may have suggestions concerning desirable features to be included in the program of the Department of Visual Instruction should send them to Mrs. Grace Fisher Ramsey, American Museum of Natural History, New York City. Mrs. Ramsey is president of the Department for 1933-'34.

Department Membership

Membership in the Department of Visual Instruction of the National Education Association is open to anyone who may be interested in the application of visual-sensory aids to educational procedure. This would include teachers, school executives, members of boards of education, members and officials of parent-teacher associations, members and officials of various public and private service agencies, ministers, Sunday school workers, travelers, photographers, and any others who may be interested. Active membership is limited to those who are members of the N. E. A., but associate membership is available to anyone, including all services except the privilege of participation in the business affairs of the Department.

The annual cost of membership is but $2.00, including a subscription to THE EDUCATIONAL SCREEN and other services which would cost more than twice the membership fee if secured by those who are not members. If you are not a member, you are failing to identify yourself with the most progressive movement in the field of education. The accompanying blank is provided for your convenience. Use it!

Membership Application Blank

Secretary, Department of Visual Education,
National Education Association,
1638 Illinois Street,
Lawrence, Kansas.

Date.....

I herewith make application for membership in the Department of Visual Instruction of the N. E. A., for a period of one year at the usual fee of $2.00, which I am enclosing. (Payment may be deferred if desirable.)

My membership card, the 1933 Visual Instruction Directory, and *The Educational Screen* should be mailed to—

Name .....

Address .....

City and State.....

I am ☐ } a member of the
I am not ☐ } National Education Association

Note: Please make remittances payable to the Department of Visual Instruction.

Sound Motion Pictures as an Aid to Classroom Teaching

(*Concluded from page* 247)

Part 1, relating to the biological sciences, was given after the films had been used. The scores on this were used for evaluating the effectiveness of these particular films in conveying specific information. Part 2, relating to the physical sciences, was given twice—before and after the films had been shown. The gains in scores were used to evaluate the effectiveness of the films.

The results of these tests showed that educational sound pictures in which sound is a vital and realistic part of the picture were fully as effective as lecture demonstrations. The three silent films which were compared with lecture demonstrations showed similar results. In the first part, the figures were: 1.0 and 0.7 in favor of the sound films, and 0.4 in favor of demonstrations. In the second part the experimental constants were 5.3 and 0.4 in favor of the demonstrations and 1.4 in favor of the films. These figures seem to indicate an advantage in favor of the demonstrations over the silent films.

The comparison of the lecture type of sound films[1] with silent films identical or similar in content, showed that students taught with silent films made slightly higher scores than did those taught with sound films. The differences in favor of the silent films had experimental contestants of 3.5 and 16.2 on the two divisions of the test. These indicate the superiority of the printed caption over this particular type of sound film. Dr. Clark explains this by the fact that in the silent films, the students only require one sense; viz. sight. In the sound films they are straining to catch the words of the speaker at the same time that the eye is endeavoring to see everything in the picture. This means that neither sense works as completely as otherwise it would.

In the interest examinations the percentages of students who maintained their original interests, as shown by their making the same choices on the initial and final tests, were: demonstrations, 54.6%, sound films, 59.4% and silent films 60.3%. The percentages of students indicating new interests stimulated by films and lectures were: sound films, 27.4%, compared with identical demonstrations, 22.2%; silent films, 26.7%, compared with identical demonstration, 26.2%.

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1. Dr. Clark draws a sharp distinction between the picture in which sound plays a vital part and the lecture type of picture. By this latter type, he means those in which an unseen voice explains and comments upon what is going on in the film. The sounds which would be incidental to the pictures, such as conversation, are not reproduced.

AMONG THE MAGAZINES AND BOOKS

CONDUCTED BY MARION F. LANPHIER

Sierra Educational News (October) "Using Visual Aids for Economy and Learning" by Arthur L. McLean, of the Berkeley, California, Schools, is a further testimonial to the economies attained through the normal functioning of a school department of visual aids because it not only conserves the time of the pupils but indirectly the funds of the school district.

This article is directly followed by "Visual Education in a Social Science Activity," a description of a class project on "The Land of Cotton" conducted by Alma Lucille Smith, Lafayette School, Long Beach, California, in which all forms of visual aids were utilized—flat pictures, stillfilms, a student-made talking moving picture, and shadow pictures.

The Catholic School Journal (October) "With more than twenty-eight million youngsters still being educated attending the movies at the rate of at least once a week, the effects produced upon them becomes a matter of very greatest importance," wrties Rev. Kilian J. Hennrich in "The Guidance of Adolescents: The Movies." That the majority of current film productions produce dangerous effects on both the health and morals of children has been brought out by the findings of the Payne Fund Research Committee, some of which the author discusses. Various methods have been attempted in the past to improve conditions, none of which was effective. The writer believes the ultimate solution of this problem is self-censorship for adults who, in turn, should give instruction and moral guidance to the young, and promote the showing of good films.

International Review of Educational Cinematography (September) "Music as a Cause of Disease and as a Healing Agent (With Special Reference to the Sound Film)" by R. Assagioli, is an unusual and fascinating account of the influence of music on body and mind. And now, says the author, "the recent invention of the sound film opens up a new and promising field for the application of musical therapeutics. The union of sound with visual images gives a greater efficacy to both, and increases their curative possibilities." As the result of a recent experiment showing the beneficial effects of talking films on hospital patients, the United States authorities have in preparation a plan for providing all the major hospitals of the country with cinema projection apparatus.

Because of the ability of certain types of music to produce harmful effects, the author recommends censorship not only of the films but also of the music which is associated with them.

Utah Educational Review (September) The official publication of the Utah Education Association is running a series of articles on visual instruction, starting with the September issue. The first article, "Development in Visual Education," reviews visual instruction activities among Utah schools and will serve as an excellent introduction to the articles to follow.

Mr. B. A. Fowler is the editor of the Review and is both progressive and aggressive in his attitude toward visual instruction. He should be congratulated upon his intense interest in improvements of the schools of his state. Incidentally, the Utah schools now rank well among those of the various states.

National Board of Review Magazine (September-October) In this issue Dr. P. J. Rulon of the Graduate School of Education, Harvard University, summarizes fully the Carnegie-Harvard experiment to evaluate the sound motion picture as an instructional tool in teaching ninth grade general science. Our readers will doubtless recall that the results of this study were briefly reported in the EDUCATIONAL SCREEN for June.

The complete report of the experiment entitled "The Sound Motion Picture in Science Teaching" is now available in book form, covering 236 pages, from the Harvard University Press.

Film Production Activities

(*Concluded from page* 252)

Experiment six consisted of a difficult wheel-elevator problem. The platform was to be raised by turning the wheel, first demonstrated to the monkeys by the experimenter. Gus solved it on the fourth trial, Sue on the sixth. Experiments seven and eight were modifications of Bingham's method with Chimpanzees, and Gus proved the superior pupil.

The experiments indicate that the process solving was insightful. The solution depended upon seeing one detail in relation to others. There was no evidence of mechanical learning in terms of repetition or trial and error.

The pictures have been edited into a one reel 16 mm. motion picture and are available for loan to colleges and other institutions which might desire to use them. In addition to the titles which call attention to the experiments, there is adequate explanatory material in mimeographed or printed form.

THE FILM ESTIMATES

Being the Combined Judgments of a National Committee on Current Theatrical Films

(The Film Estimates, in whole or in part, may be reprinted only by special arrangement with The Educational Screen)

(Film Estimates on releases during the past summer are available on the regular weekly cards, carrying seven films each, at four cents a card.)

Estimates are given for 3 groups
A—Intelligent Adult
Y—Youth (15-20 years)
C—Child (under 15 years)
Bold face type means "recommended"

Ace of Aces (Richard Dix) (RKO) Another war-horror picture about sculptor, hating to take life but shamed by sweetheart into entering air-service in Great War. Becomes one of the best killers. The girl, disillusioned by war, tries to bring him back to former ideals and finally succeeds.
A—Fair Y—Hardly C—No

After Tonight (Constance Bennett, Gilbert Roland) (RKO) War-spy thriller, with incredibly clever heroine a Russian spy in love with Austrian officer. His task is to catch unknown operative whose intricate doings defeat Austrian efforts. Capture—disclosure—heavy struggle for hero—and Armistice saves the romance.
A—Fair of kind Y—Perhaps C—No

Anne Vickers (Irene Dunne, Walter Huston) (RKO) Quite faithful filming of Sinclair Lewis novel of career and illicit loves of social-worker heroine, against background of prison reform, harrowing at times. More restrained and less vigorous than the book. Well acted and well cast.
A—Fair Y—Unwholesome C—No

Before Dawn (Stuart Erwin, Dorothy Wilson) (Radio) Gruesome Edgar Wallace murder-mystery, motivated by hidden fortune left by dead thief and guarded by his death mask. Clairvoyant power of heroine proves effective in solving mystery. Drama as a whole is slow-moving and unreal.
A—Mediocre Y—Mediocre C—By no means

Bitter Sweet (English production) (U. A.) Noel Coward's wistful, graceful, old-fashioned romance of English heroine who revolts from marriage with parent's choice, elopes with musician-hero, suffers trials and poverty with him in Vienna—and his death brings bitter ending. Much charm despite inadequate acting and direction.
A—Notable of kind **Y—Good**
C—Little interest

Bombshell (Jean Harlow, Lee Tracy) (MGM) Fast, hilarious, highly sophisticated farce, satirizing life of movie star of slight mentality. Her frantic press-agent aims to make "Lola" synonym for glamour and seductiveness, and then marries her himself despite rivals. "Snappy" dialog, clever acting, amusing situations.
A—Good of kind Y—Doubtful C—No

Bowery, The (Wallace Beery, Jackie Cooper) (U. A.) Repeats "The Champ" with tough little boy idolizing tough big man. Some human appeal and pathos, but chiefly saloon brawls, fights, booze and vulgarity, with J. L. Sullivan, Steve Brodie and Carrie Nation lugged into cast. Overdone burlesque of Bowery life in the '90's.
A—Hardly Y—Perhaps C—No

Broadway through a Keyhole (Constance Cummings, Paul Kelly) (U. A.) Highly spiced, cheaply sensational night-club stuff, with incredibly dangerous gangster turning incredibly benevolent and turning over heroine he has raised to fame to man she really loves. Much heavy villainy and much glory to the gangster.
A—Depends on taste Y—Unwholesome C—No

Broadway to Hollywood (Alice Brady, Frank Morgan) (MGM) Well-acted, convincing picture of stage-life in best vaudeville traditions, as lived by "the Hacketts"—father, mother, son, grandson—with the sentiment, joys and sorrows, struggles and triumphs. Young wife's suicide and its causes quite unpleasant.
A—Good **Y—Probably good**
C—Good unless too mature

By Appointment Only (Lew Cody) (Invicible) Sentimental Cinderella theme seriously done. Famous heart-specialist prefers charity patients to rich ones despite ambitious fiancee. His adopted daughter complicates things but logical ending is attained. Quite human and charming, but slow tempo and much dialog.
A—Good **Y—Good** C—Fair

Charlie Chan's Greatest Case (Warner Oland) (Fox) Better than average murder mystery with Oland as the engaging Chinese detective of many adages. Dark murders in Hawaii cast suspicion on many, until Chan's cleverness pieces together evidence and reveals the criminal. Chief fault, too complex a plot.
A—Good **Y—Good** C—Fair

Damaged Lives (Weldon Pictures Prod. for A. S. H. A.) Effective dramatic presentation of social disease problem, sponsored by American Social Hygiene Association. Delicate theme handled with skill. Well produced, acted and staged. Human and appealing story dealing with lives of two cultured young people.
A—Worth seeing Y—Probably good
C—Beyond them

Devil's Mate, The (Peggy Shannon, Preston Foster) (Monogram) Murderer, facing electric chair, is about to give name of accomplice when he is mysteriously killed by a poison dart. Unraveling of mystery provides novelty, suspense and thrills, with natural ending.
A—Fair Y—Fair C—Better not

Dinner at Eight (All Star cast) (MGM) Pretentious array of many stars in series of episodes connected only by liaisons and thread of plot. Some fine work by Dressler, Burke, Barrymores, Lowe and Tracy, with obvious, sure-fire roles for Harlow and Beery. Social comedy of little significance or dramatic value.
A—Fair Y—Better not C—No

Ever in My Heart (Barbara Stanwyck, Otto Kruger) (Warner) Bitter racial hatred at outbreak of war cruelly affects loyal German-American citizen and fine American wife. Crushed, defeated, he turns German spy, meets wife serving in canteen who bravely meets situation. Poignant drama, finely acted and produced, but psychology debatable.
A—Fine of kind Y—Very mature
C—Too mature

Kennel Murder Case, The (William Powell, Mary Astor) (Warner) The Van Dine detective character smoothly played by Powell as Philo Vance has two crimes to solve in this absorbing murder mystery. Natural acting and clever plot, not too involved, differing somewhat from original story. Suspense well maintained.
A—Good of kind **Y—Good** C—Perhaps

Life in the Raw (George O'Brien, Greta Nissen) (Fox) Another Zane Grey western, only semi-gangster atmosphere, about Easterner going west to run ranch under exciting difficulties. More or less healthy thrills, with sympathy rightly placed and honesty triumphant. Probably better than average western.
A—Hardly Y—Harmless C—Perhaps

Mad Game, The (Spencer Tracy, Claire Trevor) (Fox) Sensational, lurid, improbable tale of all-powerful beer-baron a la Capone, jailed, while his rival turns kidnapper. Disguised by facial operation, hero is paroled to track down arch-kidnapper. Succeeds and dies. Low characters well acted. Sympathy entirely on side of law.
A—Fair Y—Perhaps C—No

Meet the Baron (Jack Pearl, Jimmy Durante) (MGM) The "Baron Munchausen" makes visible his radio antics in feeble story of much nonsense, a little vulgarity, and some laughs over Durante's overacting, Zasu Pitts' intelligent play of imbecilic comedy, and a fine bit by Edna May Oliver. For those who laugh easily.
A—Mediocre Y—Probably amusing
C—Not for them

My Woman (Helen Twelvetrees, Victor Jory) (Columbia) Ups and downs of man and wife in "big time" radio. Hero, a conceited know-it-all, is lifted to success by faithful wife, then, addled by success, drinks himself to failure. Forced and unnatural situations despite some good acting.
A—Mediocre Y—Poor C—Worthless

Police Call (Nick Stuart, Merna Kennedy) (Mayfair) Stupid "thriller" about prize-fight champion who wants to be an archaeologist, but trouble with racketeers sends him to scientific treasure-hunting in Guatemala and rather absurd love affair. Typical hash, made in a hurry, poorly acted, deceptively titled.
A—Stupid Y—Trash C—No

Quatorze Juillet (Foreign cast) (Directed by Rene Clair) French dialogue film with slender plot, dealing with joys and sorrows of life in the Bohemian quarter of Paris. Keen wit and clever, inspired direction holds interest to the end. Particularly interesting to students of drama and the screen.
A—Good of kind Y—Perhaps C—No

Saturday's Millions (Robert Young, Leila Hyams) (Universal) Routine football story, but with cynical hero who is utterly commercial in his attitude, disloyal to best college ideals, with booze and a mistress for his pastimes. He gamely gives his all to win but total effect of picture unsatisfying and unconvincing.
A—Mediocre Y—Mediocre C—Hardly

Sleepless Nights (Stanley Lupino) (Remington Pictures) Light and inoffensive musical bedroom-farce, made in England. Chief interest is Lupino's clever performance, which includes some good dancing and singing. Story thin and monotonous, romantic complications caused by mistaking hero and heroine for newlyweds.
A—Hardly Y—Harmless C—No interest

S. O. S. Iceberg (Rod LaRocque and foreign cast) (Universal) Grim, vivid, somewhat depressing story of Arctic exploration, with some incredible heroics and strained probability. But notable for its extraordinary photography of frozen Greenland waste, life there, and with thrilling shots of icebergs from birth to breakup.
A—Fine of Kind **Y—Very good**
C—Probably good

Stage Mother (Alice Brady, Franchot Tone) (MGM) Devoted stage-mother, insisting on daughter's career, nearly wrecks her happiness. Brady interesting, but unsympathetic as uncultured mother crashing through harsh opposition. Appealing at times but story moves slowly and has one objectionable situation.
A—Good of kind Y—Doubtful C—No

Tarzan the Fearless (Buster Crabbe) (Principal) First 4 episodes of above-average serial of Tarzan's jungle encounter with heroine seeking lost father, both of whom he rescues often. Some good photography, variety of action, much of Crabbe's physique, but mediocre acting and plot very long drawn out.
A—Depends on taste Y—Good
C—Good but exciting

To the Last Man (Randolph Scott, Esther Ralston) (Paramount) Bloodthirsty feud in Kentucky transfers to California and becomes still more violent till both families are wholly wiped out, save boy of one and girl of the other—hence, romance. Incessant killings, with extreme cruelty and intense hates.
A—Hardly Y—No C—No

Way to Love, The (Maurice Chevalier) (Paramount) Chevalier again at his best in mood of "Innocents of Paris." Projects his finest qualities in fascinating array, as Francois, the singing yet serious lad with the one burning ambition to become a guide to Paris. Ann Dvorak seconds him most charmingly.
A—Delightful **Y—Entertaining**
C—Mostly good

SCHOOL DEPARTMENT

CONDUCTED BY DR. F. DEAN McCLUSKY

Director, Scarborough School, Scarborough-on-Hudson, N. Y.

Correlating Radio and Slides

Before the National Education Association meeting last June in Chicago, Miss S. Naomi Anderson, Field Supervisor, Visual Instruction, Chicago Public Schools, gave a class room demonstration of teaching a geography lesson by radio and stereopticon slides, as practiced in Chicago. Her subject was "Russia, The Land and the People."

A teacher and her pupils were on the platform, before the audience. One of her pupils had a stereopticon, or lantern, ready for use. He had the stereopticon slides, or pictures to be studied in this lesson, ready to screen as asked for during the radio talk.

The reason for giving an approach to a unit of study is primarily to build up an adequate apperceptive mass as a foundation for learning and to motivate learning. Presumably, sixth grade pupils know little about foreign lands. Through the study of pictures they may secure such vicarious experiences as are necessary for developing desirable understandings. Pertinent questions about pictures create a desire to learn. The pupils may listen to a scheduled radio talk which is illustrated by stereopticon slides.

Miss Anderson then gave to the audience the supposed "radio talk" about as follows, while the class followed intently with the appropriate pictures before them.

"Good Afternoon!

"Most of us have been reading bits of news here and there about Russia, but it seems so strange. The people have a new government, not at all like our government. The country is so large that we learn about regions of hot and cold lands, dry and moist lands, and mountainous and flat lands. Well, boys and girls, none of us knows everything Russia. We are all trying to learn more about the land, and particularly about the people. One well-known Russian has visited Chicago many times. He is Feodar Chaliapin, a singer of high rank. Perhaps some of you have heard him sing here either in Grand Opera or in concert. He is living and is still singing. Let us listen to a phonograph record, Chaliapin singing "Song of the Viking Guest". A Russian singing Russian music.

(Music)

"While we are studying Russia, let us remember that this country has produced great artists such as Chaliapin. The other day I visited a Russian restaurant here in Chicago. The host or manager was a large man dressed in a red suit. His trousers were short, full knickers, his coat was fitted around his waist, and he wore a wide black leather belt. His boots were black leather too, something like those boots our western cowboys wear. His face was almost covered with a heavy black beard. He was a young man. I asked him why he dressed as he did, and he told me that he wanted everything about his restaurant to look as nearly like old Russia as possible. He said that his father had belonged to a Cossack tribe that once lived in the mountains. You know the Cossacks were and are skilled horseman.

"Our restaurant host had his clothes made like those his father had worn. Let us look at a picture of an old Russian village.

Slide No. 1

"This is not the home of one family. It is a village, the home of several families. Perhaps as many people live in these mountain homes as there are pupils in

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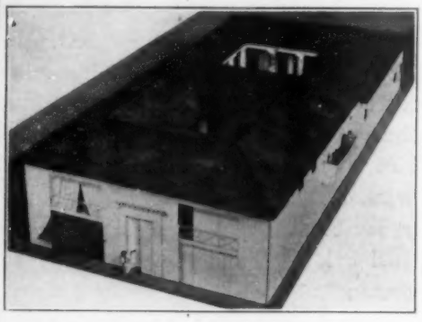

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two rooms of your school. Is there much land between these huts and the mountains? Could we travel quickly through this country ? We should have to go horseback as the Cossack tribesmen do.

Slide No. 2

"A town is built along the Dneiper River. Many more people live here than in the mountain village. Could we travel quickly through this country?

Slide No. 3

"This woman works in the mines. Does she think she can do her work well? Is she proud of her job? She earns just as much money as her husband or brother can earn for doing the same work. She is the mother of children, too. Who takes care of the children while the mothers are working in the mines or the mills or on the farms? The next picture will tell you.

Slide No. 4

"Here they are! Do they seem to be in good care? Each morning before a mother goes to work she leaves her children here in the day nursery. This is their school. At noon their teachers serve them lunch. Is it a picnic feast with more food than they can eat? Do they look happy? Would you rather eat here or at home?

Slide No. 5

"This apartment building looks much like some here in Chicago. Some common houses like this one are built in the city for city workers and some are built in the country for farmers. Many, many families live in one building, sometimes four or five in only one small room. There are not enough homes for every one. Let us look again at our picture of the mountain village.

Slides Nos. 1 and 5 are screened alternately

"Both houses are crowded with people. In which would you rather live?

Slide No. 6

"If we were inside this apartment building, we might see a stairway like this one. It is wide. Many people climb up and down it during the day. We said, a moment ago, that those communal houses were crowded,—several people living in one room. The building is four or five stories high, and there are no elevators, therefore, the stairway must be wide enough to allow all of the people who live there to go to their apartments. Notice that very little material, I believe it is steel, is used for the railing, just enough to make it a protection.

Slide No. 7

"What can this building be? Here we see larger windows than those in the apartment building. Do you think that rooms with such large windows would be small rooms? No. The rooms are very large. All the food for the whole community is prepared here. People do not cook at home at all. There are no kitchens in these new Russian homes.

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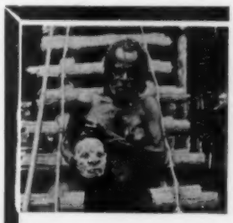

Photo by Wm. A. Robinson

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It isn't necessary to go on an expedition to get unusual pictures. This LEICA photo by H. C. Raven shows there's many an amusing adventure to be recorded right near home.

They may make a little tea in a samovar, but they do not bake their black bread or make their soup at home. Cooked food is all prepared in these large factory kitchens.

Slide No. 8

"Near the city of Moscow, we should see most of their workers spending their evenings in club rooms like this one. Their homes are just places to sleep, and so they gather in these club houses to study and to enjoy themselves.

Slide No. 9

"What is happening? These Russian people are talking earnestly about something. The woman in the center is trying to answer questions. Some of her listeners believe she is telling the truth. Some of the other listeners do not believe she is telling the truth. Which woman seems afraid? One seems to be thinking, "Ah, I told you so." The greatest crime that can be committeed in Russia is any action or talk against the government. The government has spies all over the country who pry into citizens' affairs. Here we can see that some citizen, or comrade as he is called in Russia, has done or said something which the government does not like. Our picture shows a trial scene. The guilty persons must change their ways. Do you think the woman in the center can change her ways quickly?

Slide No. 10

"This little boy can learn quickly. He can understand what Russia's new government asks him to do He has been working in the fields and has stopped to laugh with the photographer. Yes, he works. He cannot go to school all day and then play the rest of the day as American children do. He works and then goes to school. Do you think he is happy? Does he look healthy?

Slide No. 11

"We see Russian soldiers parading in a public square, Moscow. There are many, many people in Russia. Here is just a small part of the large army. In order to make the Russian people do what the government thinks is best for them, this powerful army is ready for duty at all times."

Following such a radio talk, as an approach to the study of Russia, the pupils are provided with mimeographed copies of the complete assignment for the unit which includes a series of questions and references for directing the pupils' later study.

Illustrative Teaching Aids

Teachers who wish to motivate their lessons with inexpensive illustrative teaching aids should know about the Foreign Correspondence Club called The International Legion. The object of this club, which has over 24,000 members, is to promote the collecting of souvenir post cards, stamps, coins, curios, etc, by publishing the names and addresses of reliable collectors in all parts of the world who are members of this Society and will exchange with the other members. This exchange of visual material contributes effectively to the illustrated study of the geography, history, languages and customs of the universe. Membership also includes "The International Post," the bi-monthly official magazine of the Correspondence Club.

One member, Wade Cudeback of Conneaut, Ohio, writes that since joining the club he has "collected view cards from 59 different countries of the world; besides securing products, as cane from Porto Rico, coins, flags, newspapers, curios, descriptive pamphlets telling about foreign countries and cities, and items of unusual interest. Through the use of these aids I have succeeded in making my Geography classes more interesting. It is more impressive to the pupils to have picture study of the various places studied in the lesson or to see things about which they are reading or discussing in class."

Mr. Cudeback will be very glad to provide further data regarding membership to those interested.

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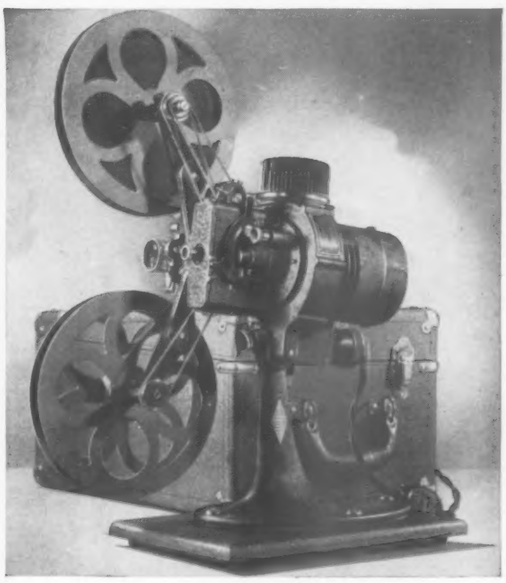

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Where the commercial firms — whose activities have an important bearing on progress in the visual field — are free to tell their story in their own words. The Educational Screen is glad to reprint here, within necessary space limitations, such material as seems to have most informational and news value to our readers.

Bell & Howell Camera for Expedition

Sir Hubert Wilkins, noted explorer and scientist, has had the Bell & Howell Company, Chicago, prepare a movie camera for the purpose of making a continuous map of the regions to be traversed on a 3,000 mile airplane dash soon to be made across the south polar cap and return, passing directly over the South Pole. Single pictures will be taken automatically from the air at intervals of approximately six seconds. These pictures will be later assembled into one of the most perfect map records ever made at either pole.

Aerial mapping photos of Arctic regions have been made before, but the film generally has been at least nine inches wide, and it has not been feasible to carry sufficient film to take enough pictures to make a continuous map covering an extended path of flight, apart from the fact that cameras big enough to accommodate the large size mapping film are cumbersome and heavy.

The movie camera prepared for Sir Hubert, complete with film magazine, electric motor, and sufficient film, will weigh scarcely twenty pounds. The film itself will be 35 mm. and this will be the first time that this size film has been used for such mapping purposes. Pictures made on 9-inch film are seven inches deep; and 100 feet of this film, for example, would take only about 170 pictures, whereas 170 pictures will require only about 10 feet of the 35 mm. film.

Sunny Schick Announces New 16 mm. Film Laboratory

Sunny Schick, motion picture equipment broker and owner of the Atlas Film Company, announces the opening of their new DuPont Film Laboratories which will occupy new quarters in their newly constructed building at 401 W. Washington Blvd., Fort Wayne, Indiana.

The plant is of the latest type in construction and its capacity is the developing of 500 rolls of movie film per month. The plant is fully equipped to handle reversing process of film as well as duplicate printing and enlarging. Also the development of Leica and Contax strip film and the printing of same. Mr. Schick announces that it is one of the finest plants in the middle west. All motion picture film sent into the plant will be developed and shipped out the same day, giving people in this section two day service.

Mr. R. D. Kimmel, formerly of Des Moines, Iowa, is in charge of the Atlas Film Company plant as supervisor.

Historical Study Units

The constructive work being done by Educational Research Studies of Hollywood in selecting fine "stills" from the vast collection amassed in connection with various movie productions of the past dozen years or more, and in organizing them for teaching purposes, has been described before in our pages.

This series of "Photographic Historical Study Units" should prove exceedingly valuable teaching material. Each unit consists of a minimum of 15 pictures, painstakingly selected from hundreds of photographs with two specific ends in mind—namely (1) to supply the maximum of informative content possible in this number of views, and (2) to insure the most perfect continuity possible. Each unit is accompanied with a concise *introduction* necessary to lay the proper background, with a *text* under each picture to accentuate details, broaden meaning, and correlate the picture with the others in the unit—and with a *question guide* designed to aid the teacher in bringing out a live and full discussion by the class. Sample questions from the guide on the two pictures reproduced here are as follows:

The Pilgrims

Locate those representing Elder Brewster, Miles Standish and John Alden.

Where did the Naragansett tribe live?

Why should the red man and the white man have been enemies almost from the start?

The colonists were always on their guard against the Indians. The story goes that Canonicus, chief of the Narragansetts, sent a rattlesnake quiver filled with arrows, as a symbol of defiance, to Governor Bradford of the Plymouth Colony. Bradford emptied out the arrows, filled the quiver with bullets and sent it back to Canonicus. The Indian was so awed by this reply that he assumed a friendly attitude toward the white man.

Feudal Life from Robin Hood

Why are the devices on the two warriors at the right the same?

Why are the bands of metal worn around the wrist?

Do you think the fighter at the left was expecting his guests?

How have the soldiers gained entrance to the room?

Each fief-holder ruled his estate like a king. He was responsible to the lord over him, but often disputes arose between lord and vassal or among vassals of the same lord; or powerful vassals of the king revolted against the royal authority. It was for this reason that castles had such thick walls, were surrounded by a moat, and constantly guarded by men-at-arms. And it was for this reason also that armor was everyday dress.

These pictures are sold in units only, not as separate pictures, for the sound and simple reason that the aim is to teach a subject, not a scene. Says the company:

"These *units* were prepared to visualize the fact that life is a series of experiences each of which is a cause or an effect of one of the others. Therefore, we have grouped and prepared them so that the dramatic significance of the period would spring to life and the student or casual reader could enter into these people's daily lives and gain a *balanced* visual understanding of how they acted and why they succeeded or failed.

"Heretofore, only a few more or less unrelated reproductions of paintings or sketches were available to use as textbook illustrations, loose library pictures or as visual aids in the teaching of a dramatic historical period. All that the teacher or the author could hope to do was to bring out one or two highlights and often in so doing, the student or the casual reader was given an *unbalanced* idea of what took place. The impression made by such pictures focused thoughts upon a few scattered incidents and excluded a broad and comprehensive view of the subject.

"We frankly believe that one of the reasons why historical classroom and library pictures have not heretofore been more widely used is the fact that this continuity was impossible, while in our *study units* we have overcome this difficulty and correlated the whole series to be of real assistance to the history teacher and to supplement vividly the project method of teaching social subjects outlined by the best modern textbooks."

Government Buys Animatophones

The United States Government has purchased 100 Victor sound-on-film Animatophones of the Model 12B type for use in training workers in the 1440 Conservation Camps located in every state of the Union except Delaware.

Working efficiency has perhaps constituted one of the greatest problems at the C. C. Camps, the average peak of working efficiency so far attained being only about 50%. The Department of Forestry has definitely shown that this deficit in efficiency can only be corrected by teaching the reforestation army the things it does not now know about forestry, soil erosion, fire prevention, road building, etc. It is understood that one of the first recommendations of the Forest Service was that the Department of Agriculture's fifty or sixty forestry and agricultural films be utilized in properly training C. C. C. for its work.

Inasmuch as the films to be used for this purpose were already in existence, projection equipment offered the greatest problem in connection with actual application. Quite a number of the available films are without sound and, although sound is being recorded as rapidly as possible for these subjects, provision had to be made for silent as well as sound projection. It was necessary, also, that the equipment be easily portable and adaptable to a variety of operating conditions, as each projector will be constantly moved around a circuit comprised of about 14 camps. Economy of cost and upkeep was another factor of major importance.

Elmer Pearson Joins DeVry Staff

Elmer Pearson, former Vice-President and General Manager of Pathe Exchange, Inc., has become the new General Manager of Herman A. DeVry, Inc., the well known manufacturer of portable sound projectors and cameras.

Herman A. DeVry purchased the QRS-DeVry organization last fall. Most of the smaller movie projectors and cameras of that organization, in the low price field have been dropped, and the new firm concentrated on high quality sound projectors and cameras.

Pathe was one of the leaders among theatrical organizations, in establishing a non-theatrical department, and Mr. Pearson will bring to his new position a wealth of experience in that field. The new connection brings together two of the really constructive pioneers in the movie industry, and should be productive of important results.

Mr. Pearson's first campaign will be the launching of the new DeVry Straight Feed Portable Sound Projector, the DeVry Double and Single Recording Camera, and the coming DeVry 16 mm. Sound Unit, which he regards as a distinct advance in 16 mm. sound achievement.

HERE THEY ARE!

A Trade Directory for the Visual Field

FILMS

Arnold Audio Associates (5)
11 W. 42nd St., New York City

Bray Pictures Corporation (3, 6)
729 Seventh Ave., New York City

Carlyle Ellis (1, 4)
53 Hamilton Terrace, New York City
Producer of Social Service Films

Cinecraft Co. (4)
80 Boylston St., Boston, Mass.
(See advertisement on page 259)

Eastman Kodak Co. (4)
Rochester, N. Y.
(See advertisement on outside back cover)

Eastman Teaching Films, Inc. (1, 4)
Rochester, N. Y.
(See advertisement on inside back cover)

Edited Pictures System, Inc. (1, 4)
330 W. 42nd St., New York City

Ideal Pictures Corp. (1, 4)
30 E. Eighth St., Chicago, Ill.

Modern Woodmen of America (3, 4)
Rock Island, Ill.

Pinkney Film Service Co. (1, 4)
1028 Forbes St., Pittsburgh, Pa.

Ray-Bell Films, Inc. (3, 6)
817 University Ave., St. Paul, Minn.

United Projector and Films Corp. (1, 4)
228 Franklin St., Buffalo, N. Y.

Universal Pictures Corp. (3)
730 Fifth Ave., New York City
(See advertisement on page 258)

Wholesome Films Service, Inc. (3, 4)
48 Melrose St., Boston, Mass.

Williams, Brown and Earle, Inc. (3, 6)
918 Chestnut St., Philadelphia, Pa.

Y. M .C. A. Motion Picture Bureau (1, 4)
347 Madison Ave., New York City
19 S. LaSalle St., Chicago, Ill.

MOTION PICTURE MACHINES and SUPPLIES

Bell & Howell Co. (6)
1815 Larchmont Ave., Chicago, Ill.
(See advertisement on page 238)

Eastman Kodak Co. (4)
Rochester, N. Y.
(See advertisement on outside back cover)

Edited Pictures System, Inc. (1)
330 W. 42nd St., New York City

Herman A. DeVry, Inc. (3, 4)
1111 Center St., Chicago

Ideal Pictures Corp. (1, 4)
26 E. Eighth St., Chicago, Ill.

International Projector Corp. (3, 6)
90 Gold St., New York City
(See advertisement on inside front cover)

Motion Picture Accessories Co. (3, 6)
43-47 W. 24th St., New York City

Regina Photo Supply Ltd. (3, 6)
1924 Rose St., Regina, Sask.

Sunny Schick (4)
Fort Wayne, Ind.
(See advertisement on page 261)

United Projector and Film Corp. (3, 4)
228 Franklin St., Buffalo, N. Y.

Universal Sound System, Inc. (2)
10th & Allegheny Sts., Philadelphia, Pa.
(See advertisement on page 261)

Victor Animatograph Corp. (6)
Davenport, Iowa

Visomatic Systems, Inc. (2)
292 Madison Ave., New York City
(See advertisement on pages 250-1)

Weber Machine Corp. (2)
59 Rutter St., Rochester, N. Y.
(See advertisement on page 257)

Williams, Brown and Earle, Inc. (3, 6)
918 Chestnut St., Philadelphia, Pa.

PHOTOGRAPHS and PRINTS

Educational Research Studies, Ltd.
5537 Hollywood Blvd., Hollywood, Cal.
(See advertisement on page 260)

William Thompson
Malden-on-Hudson, N. Y.

SCREENS

Da-Lite Screen Co.
2721 N. Crawford Ave., Chicago
(See advertisement on page 237)

Motion Picture Accessories Co.
43-47 W. 24th St., New York City

Williams, Brown and Earle, Inc.
918 Chestnut St., Philadelphia, Pa.

SLIDES and FILM SLIDES

Conrad Slide and Projection Co.
510 Twenty-second Ave., East
Superior, Wis.

Eastman Educational Slides
Iowa City, Ia.

Edited Pictures System, Inc.
330 W. 42nd St., New York City

Ideal Pictures Corp.
26 E. Eighth St., Chicago, Ill.

Keystone View Co.
Meadville, Pa.
(See advertisement on page 261)

Radio-Mat Slide Co., Inc.
1674 Broadway, New York City
(See advertisement on page 259)

Society for Visual Education
327 S. LaSalle St., Chicago, Ill.

Spencer Lens Co.
19 Doat St., Buffalo, N. Y.
(See advertisement on page 237)

Victor Animatograph Corp.
Davenport, Iowa

Williams, Browne and Earle, Inc.
918 Chestnut St., Philadelphia, Pa.

STEREOGRAPHS and STEREOSCOPES

Herman A. DeVry, Inc.
1111 Center St., Chicago

Keystone View Co.
Meadville, Pa.
(See advertisement on page 261)

STEREOPTICONS and OPAQUE PROJECTORS

Bausch and Lomb Optical Co.
Rochester, N. Y.

E. Leitz, Inc.
60 E. 10th St., New York City
(See advertisement on page 259)

Regina Photo Supply Ltd.
1924 Rose St., Regina, Sask.

Society for Visual Education
327 S. LaSalle St., Chicago, Ill.

Spencer Lens Co.
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(See advertisement on page 237)

Victor Animatograph Corp.
Davenport, Iowa

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REFERENCE NUMBERS

(1) indicates firm supplies 35 mm. silent.
(2) indicates firm supplies 35 mm. sound.
(3) indicates firm supplies 35 mm. sound and silent.
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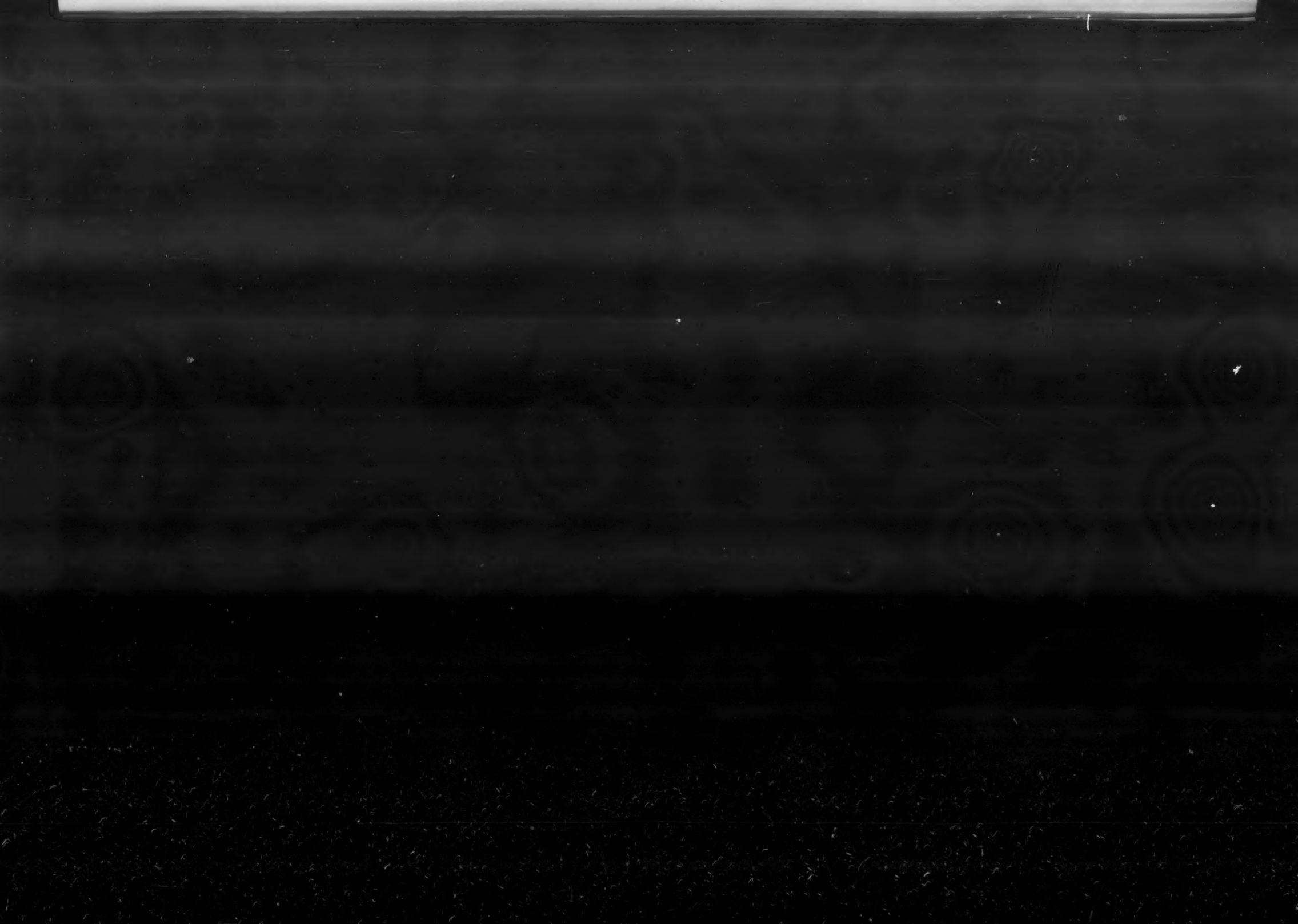

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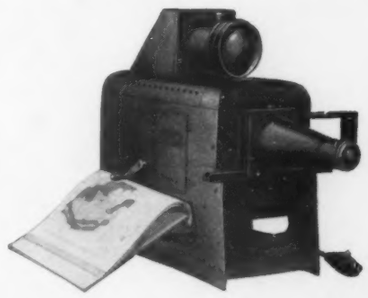

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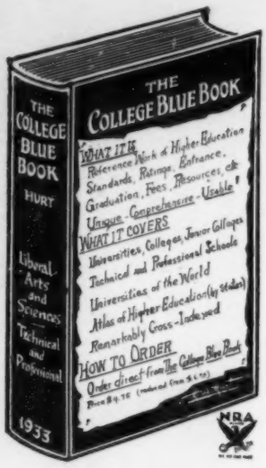

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